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Global Dynamic Operations

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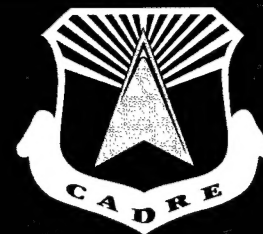
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Executive Summary

The Air Force of tomorrow (2020 and beyond) will be far more capable than the Air Force of today in ways we can barely conceive. It may well be true that our future capabilities will exceed our capacity to control them using contemporary command and control organizations, especially in a multitheater conflict. Technology should provide globally capable aerospace weapon systems that will undoubtedly be very costly, meaning that fewer such assets will be available. Theater joint force air component commanders (JFACC), therefore, will most likely compete with each other to employ the same assets at the same time, especially in case of a multitheater war or multiple small-scale contingencies.

To avoid potential military disasters from such competition, the concept of Global Dynamic Operations (GDO) envisions a centrally controlled or coordinated aerospace campaign that employs globally capable low density-high demand (LD-HD) aerospace assets in a global, multitheater environment. Theater JFACCs would continue to control more traditional shorter-range aerospace weapon systems.

GDO suggests the development of an organizational solution to the problem of employing LD-HD assets in more than one theater simultaneously. At present, during a multitheater conflict, these assets would be parceled out to theater JFACCs and controlled primarily by "gentlemen's agreements" between theater commanders in chief. This may not be the most efficient and effective way to employ the globally capable weapon systems of the future. GDO, on the other hand, involves centralized command and control of these assets through a global force air component commander (GFACC), who might be a part of Strategic Command, Joint Forces Command, or even the Joint Chiefs of Staff, although other command arrangements are certainly possible.

As the world shrinks due to increasingly capable aerospace technologies, aerospace campaigns will inevitably take on a more global complexion. In the future, some form of Global Dynamic Operations may become not only more necessary but inevitable.

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Global Dynamic Operations

Introduction

This paper is a “think piece”—not an in-depth study by itself. It is intended to stimulate thought and encourage more detailed analysis. The commander of Air University, Lt Gen Lance W. Lord, sponsored the study, which was conducted by the College of Aerospace Doctrine, Research and Education, commanded by Col James L. Ruttler, Jr. First, the paper discusses what inspired the topic; second, it defines the concept of Global Dynamic Operations; and third, the paper offers thoughts on technology, concept of operations, doctrine, and organization, with special concern for command and control. It concludes with a brief recommendation.

Originally entitled Dynamic Shift, this topic was one of four issues identified in the 1999 Global Engagement (GE) IV wargame as an area for future study. During the wargame, the players encountered difficulties in conducting near-simultaneous aerospace campaigns in two theaters, Korea and Iraq. Panel discussions between players highlighted the difficulty of efficiently using low density-high demand (LD-HD) aerospace assets. Both theaters needed the same assets at the same time, for example, employing limited B-2 resources. The players based *all* their B-2s at Diego Garcia, but the two theater CINCs had conflicting requirements for these valuable aircraft and found it difficult to employ them efficiently in the absence of a central command and control authority.¹ At a dinner following GE IV, Secretary of the Air Force F. Whitten Peters recognized this challenge when he said, “What is not yet clearly defined is our ability to ‘swing’ from one MTW [major theater war] to the next It is important that we include the potential for just such a requirement in future wargaming scenarios.”²

Definition

Global Dynamic Operations envisions *global* planning and execution for globally capable aerospace assets to achieve joint war-fighting objectives and desired effects in more than one theater at the same time. This could mean fighting two major theater wars (for example, Korea and the Persian Gulf), or a major theater war and a regional conflict (perhaps, Korea and Kosovo), or two or more smaller regional conflicts (maybe, Kosovo and wherever).

¹ The other three subjects were Agile Combat Support/Rapid Global Mobility (XO/XP/IL), Dominant Effects (XO/AU), and Early Ground Force Operations (XO). Air Force Wargaming Institute, draft After Action Report: Global Engagement IV, iv-v, vii-viii; and Briefing to the Air Force Chief of Staff, “Global Engagement IV Series: Chief of Staff of the Air Force After Action Briefing,” Pentagon, January 2000.

² F. Whitten Peters, “Preparing for the Next Challenge,” remarks to the Global Engagement IV Wargame Dinner, Maxwell AFB, Ala., 28 October 1999.



Global Dynamic Operations:

A centrally controlled or coordinated aerospace campaign using globally capable low density-high demand (LD-HD) assets in a multitheater conflict

Figure 1. Definition of Global Dynamic Operations

The major focus of GDO is on the command and control of globally capable but scarce aerospace assets that can have a strategic effect in more than one theater of conflict at the same time. Presently, such assets might include the B-2, Joint STARS, Rivet Joint, the airborne laser, and information warfare assets. GDO might even include space systems, which may not be as limited in numbers as the systems listed but which are often difficult to acquire and concentrate due to competing national and military demands.³ Dividing these scarce assets between theater CINCs may not be the most efficient means to win a multitheater air campaign. Recalling airpower history, such a partitioning of aerospace systems would be similar to US Army division commanders controlling their “own” aircraft in the World War II North African campaign.⁴

GDO fully supports the spirit of *Joint Vision 2020 (JV2020)*. *JV2020* “emphasizes the importance of ... experimentation, exercises, analysis, and conceptual thought” and declares that “technological innovation must be accompanied by intellectual innovation leading to changes in organization and doctrine.” The overarching focus of *JV2020* is “full-spectrum dominance,” the creation of a force that is “dominate across the full spectrum of military operations.” Full-spectrum dominance would be “achieved through the interdependent application of dominant maneuver, precision engagement, focused logistics, and full dimensional protection.”⁵

The concept of Global Dynamic Operations meets all these criteria. It is an innovative approach to changes in organization and doctrine to meet an uncertain future. It also helps guarantee full-spectrum dominance, most especially in a multitheater conflict. In addition, GDO incorporates three of the four ingredients that make up full-spectrum dominance. Precision engagement would be a central facet of GDO, as would dominant maneuver, albeit on a global scale. It would also include full dimensional protection by usually basing GDO strike systems outside the theater of conflict. The only *JV2020* item GDO does not directly include would be

³ For an unclassified list of service designated LD-HD assets as of 1999, see Cmdr Steven Kockman, US Navy, “America’s Silver Bullets: Allocating Low Density High Demand Assets,” research paper, Naval War College, 16 May 1999, Table 1. Air Force designated assets included the E-3 AWACS, EC-130, U-2, RC-135, Ground Tactical Air Control System, Joint STARS, Predator UAV, EC-130H, A/OA-10, HC-130 N/P, and HH-60G. Interestingly, the Air Force did not include either the B-1 or B-2.

⁴ For a detailed study of the struggle over centralized control of air assets from World War II through the Persian Gulf War, see Lt Col Stephen J. McNamara, USAF, *Air Power’s Gordian Knot: Centralized versus Organic Control* (Maxwell AFB, Ala.: Air University Press, 1994).

⁵ *Joint Vision 2020* (Washington, D.C.: Government Printing Office, June 2000), 1-3, 6-7, 10-11, 20-27, 36.

focused logistics, although focused logistics would be a central support feature of GDO, as it would be for all other combatant organizations.

Global Dynamic Operations is a subset of all aerospace operations. The most unique aspect of GDO is that sorties would probably be committed from outside theater geographical boundaries.

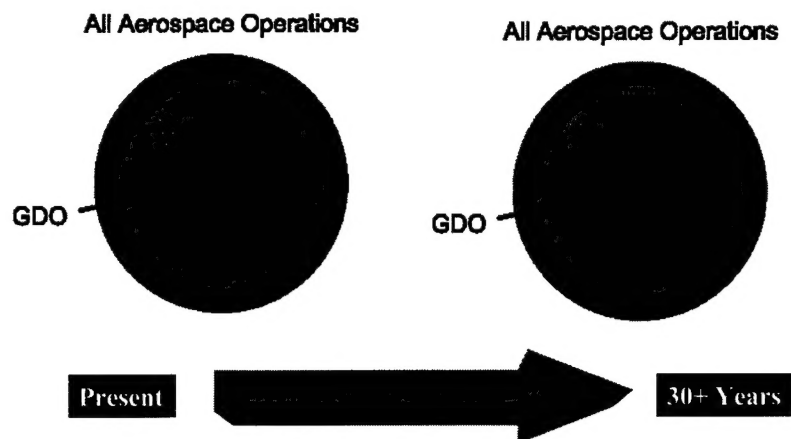


Figure 2. Global Dynamic Operations as Subset of all Aerospace Operations

At present, Global Dynamic Operations is only a small possible subset of all aerospace operations. However, two principal catalysts should lead to a higher reliance on GDO in the future (2020 and beyond). First, improvements in technology make GDO not only feasible but inevitable. In the future, long-range strike aircraft, combat unmanned aerial vehicles (UAV), robust reach-back capabilities, hypersonics, space weapon platforms, a space plane, and other improvements may render theater boundaries irrelevant. For example, a recent RAND report suggests that just 80 to 105 futuristic bombers with a 1000-knot cruise speed could “replicate the USAF Desert Storm effort” and cover “virtually the entire inhabited land surface of the Earth ... by operating from four secure hardened bases.”⁶ On the other hand, such improvements in technology will make each weapon system more expensive. As a result, the United States can expect to have fewer of each to employ, making GDO even more important.⁷ Second, GDO offers the possibility of reducing American vulnerability to enemy attack. By basing American LD-HD weapon systems far from the conflict, GDO will “project distant military effects without projecting vulnerabilities in the same ratio.”⁸ And, in any case, the United States likely will have fewer available forward operating bases in the future.⁹

⁶ According to John Stillion and David T. Orletsky, *Airbase Vulnerability to Conventional Cruise-Missile and Ballistic-Missile Attacks: Technology, Scenarios, and US Air Force Response*, RAND Report MR-1028-AF (Santa Monica, Calif.: RAND, 1999), xvi-xvii, 54-57, the four bases are Anderson AFB on Guam; Elmendorf AFB outside Anchorage, Alaska; Homestead AFB near Miami, Fla.; and RAF Lakenheath outside London.

⁷ F. Whitten Peters, “The International Dimension of Aerospace Power,” speech to the Air Force Association, 15 September 1998.

⁸ Elaine M. Grossman quoting Maj Gen Charles Link from 22 September 2000 interview, “As Aerospace Role Grows, Air Force Focuses on Developing Leaders,” *Inside the Pentagon*, 5 October 2000. Also see Stillion and Orletsky, *Airbase Vulnerability*, xi-xvii.

⁹ F. Whitten Peters, “International Dimension.”

In 1921 Italian airpower advocate Gen Giulio Douhet argued prophetically, “Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur.”¹⁰ Global Dynamic Operations may be one of those “anticipatory changes,” and it’s time to begin thinking about this new vision. The best time to make corrections to the glide path of a precision approach is before reaching “Decision Height.” This is the position in which the Air Force finds itself today.

Infrastructure Issues

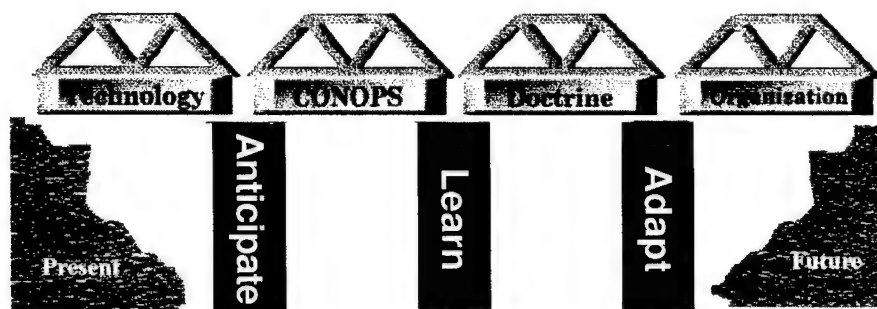


Figure 3. Bridging the Gap

Scholars have identified three causes for the majority of wartime disasters: failure to anticipate, failure to learn, and failure to adapt.¹¹ GDO anticipates the future by learning from the past and adapting to new technologies. Specifically, GDO is an attempt to avoid future military misfortunes by integrating technology, concept of operations, doctrine, and organization. The following is a brief examination of each of these categories.

Technology

The United States presently enjoys enormous aerospace technological capabilities and is constantly improving upon them. Throughout the twentieth century, we enjoyed an established culture of technological innovation, evidenced by everything from the M-1 Garand rifle to the B-2 Spirit bomber. We assume that the same successful innovation will continue in the twenty-first century. Also, as we have an advantage in research funding over any potential adversary, we will most likely maintain our technological edge. This culture of innovation and continued research funding superiority will undoubtedly increase our capabilities in ways that are beyond our present imagination.

It is entirely possible that improvements in range and speed by the middle of the twenty-first century may “shrink the globe” to such an extent that there is only *one* aerospace theater! A recent RAND report states this global-theater scenario may be possible and suggests developing

¹⁰ Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari (1942; new imprint, Washington, D.C.: Air Force History and Museum Programs, 1998), 30.

¹¹ See Eliot Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: Free Press, 1990).

Joint Direct Attack Munition (JDAM).” It would have stealthy qualities, an unrefueled range of 3250 nautical miles, a payload of 15,000 to 20,000 pounds, and weigh from 290,000 to 350,000 pounds.¹² Similarly, an Air University study conducted in 1996 predicts that by 2025, the Air Force could deploy a Mach-12 hypersonic attack aircraft using standoff missiles, a stealthy attack UAV with a range of over 8000 nautical miles, and space strike systems with global coverage.¹³ Assets such as these could attack any target in the world and would make GDO not only feasible but virtually mandatory.

Concept of Operations

The Air Force “concept of operations” or “conops” could be easily adjusted to accommodate GDO. Developing conops is basically the process of tying means to ends and is the broad outline of a commander’s assumptions or intent with regard to an operation or series of operations.¹⁴

GDO already fits most of the basic constructs of Air Force conops. GDO would contribute to all phases of aerospace operations: deter, control (or halt), win, and reshape. This is especially true as Air Force conops has moved away from sequential, attrition-based warfare and now stresses rapid parallel operations, “dominant effects,” and winning the war in the control (halt) phase. GDO would accommodate all these objectives. In addition, Air Force conops naturally places heavy emphasis on aerospace core competencies, which are also key ingredients of GDO—especially aerospace superiority, global attack, precision engagement, and rapid global mobility.

The primary impact of GDO on current Air Force conops would be merely to expand it from a regional to a more global focus. At present, the only global campaign envisioned by Air Force conops is related to intelligence, surveillance, and reconnaissance (ISR). Air Force conops plans to use space-based (satellites) and air-breathing (RC-135, Joint STARS, etc.) ISR systems to provide constant coverage to enhance situational awareness in all theaters. GDO would, of course, extend far beyond intelligence gathering to combat employment.¹⁵

Doctrine

Doctrine is a collection of fundamental beliefs about how best to organize, train, equip, and fight to achieve military objectives. It must be dynamic and never harden into dogma. As stated in Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, doctrine is “constantly

¹² Stillion and Orletsky, *Airbase Vulnerability*, 85-93.

¹³ *2025 Executive Summary* (Maxwell AFB, Ala.: Air University Press, 1996), 70-73. Dr. John J. Bertin et al., “A Hypersonic Attack Platform: The S3 Concept,” in *2025 White Papers, Volume 3, Book 2* (Maxwell AFB, Ala.: Air University Press, 1996), 93-149; Col Bruce W. Carmichael et al., “StrikeStar 2025,” in *2025 White Papers, Volume 3, Book 2* (Maxwell AFB, Ala.: Air University Press, 1996), 151-199; Lt Col Jamie G. G. Varni et al., “Space Operations: Through the Looking Glass (Global Area Strike System),” in *2025 White Papers, Volume 3, Book 2* (Maxwell AFB, Ala.: Air University Press, 1996), 201-258.

¹⁴ Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 23 March 1994, as amended through 14 June 2000, 99.

¹⁵ Brig Gen David Deptula, “Air Force Concepts of Operations: What We Do & How We Do It, Today and Tomorrow,” briefing to Air Force Chief of Staff, Maxwell AFB Ala., Air Force Wargaming Institute, 16 December 1999.

changing as new experiences and advances in technology point the way to the force of the future." AFDD 1's "Foreword," written by Gen Michael E. Ryan, Air Force chief of staff, reinforces this important statement: "Air Force doctrine must draw together the lessons of our history, the vectors of technology, and our insights about the future."¹⁶ GDO does just that.

GDO bolsters one of the central tenets of Air Force basic doctrine—centralized control. AFDD 1 makes very clear that the lessons of aerospace power history teach us that "centralized control and decentralized execution of air and space forces are critical to force effectiveness." AFDD 1 also unequivocally states that "attempts to fragment the control and planning of air and space power will ultimately cost blood and treasure by diverting effort and impact."¹⁷ GDO recognizes this enduring principle by assuming that the "vectors of technology" in the twenty-first century will naturally take the Air Force toward a global aerospace campaign in the event of a two-theater conflict. Globally capable aerospace forces that are highly valuable and few in numbers must be centrally controlled. Parceling such scarce forces out to two or more regional commands would violate this most crucial tenet of Air Force doctrine.

Nor does GDO fly in the face of the hallowed doctrinal tenet of decentralized execution since, in nearly all instances, while GDO operations would be controlled by a central authority on a global scale, missions would still be executed by decentralized units. This arrangement would be no different than the US Transportation Command (USTRANSCOM) controlling strategic airlift missions worldwide or the old Strategic Air Command controlling its bomber force across the globe.

GDO would not change the command relationships discussed in Air Force doctrine in revolutionary or drastic ways. Any GDO organization would have combatant command (COCOM) authority over LD-HD forces assigned or attached to it. This would also confer operational control (OPCON) and tactical control (TACON) over those forces. In addition, the GDO organization, either as a specified or unified command, would be the "supported" commander for the global aerospace campaign.¹⁸ This relationship would not be any different than the current practices of US Space Command (USSPACECOM), USTRANSCOM, or US Strategic Command (USSTRATCOM).¹⁹ GDO also would be consistent with the discussion on "Global Functional Forces" found in AFDD 2, *Organization and Employment of Aerospace Power*. Although referring only to USTRANSCOM and USSPACECOM, AFDD 2 recognizes that some forces "satisfy mission requirements across multiple [theaters] and are thus best centrally controlled. For such forces, the functional combatant commander will normally retain

¹⁶ Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, 1 September 1997, i, 2.

¹⁷ AFDD 1, 23.

¹⁸ COCOM is the nontransferable command authority established by law and is exercised by commanders of unified or specified combatant commands. OPCON is the command authority exercised by commanders at any echelon at or below the level of combatant command. TACON is the command authority over assigned/attached forces or commands that is limited to the detailed and, usually, local direction and control of movements/maneuvers necessary to accomplish missions or assigned tasks. The supported commander has primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan (JSCP) or other joint operations planning authority. See AFDD 1, 62-67, for full definitions of these terms.

¹⁹ AFDD 1, 70-71.

OPCON of assigned forces.”²⁰ A more complete discussion of potential command arrangements follows later in this paper.

Only in one major area does GDO not fit current Air Force doctrine. AFDD 1 often refers to the global capabilities of air and space power, but it focuses on theater-level warfare and never mentions a centrally controlled global aerospace campaign. For example, when it discusses “global attack,” AFDD 1 declares that “the ability of the Air Force to attack rapidly and persistently with a wide range of munitions anywhere on the *globe* [emphasis added] at any time is unique.”²¹ However, this statement only means that Air Force assets are highly responsive and can project power over long distances, not that a global central entity will control them.²² Likewise, AFDD 2 focuses on theater-level employment of aerospace forces. But, even AFDD 2 approaches the GDO concept when it states that aerospace “maneuver forces operate across the theater or joint operations area (JOA) and are not restricted to geographic areas of operation as is typical with surface maneuver forces. In some *global power operations* [emphasis added], the tactical operating area for a given mission may even exceed the JOA by a wide margin and can cross several geographic theater boundaries.”²³ It would not take much revision to make this statement a definition of GDO.

Organization

Currently, there is no well-defined authority for planning or executing global aerospace operations across theater boundaries. Of course, in recent years, we have not needed such an authority. With the demise of the Soviet Union, our major threats have all been regional (Korea, Iraq, etc.). However, this state of affairs could change within the next 30 to 50 years. Moreover, threats are increasingly difficult to identify or predict as we look to the far future, and America’s potential enemies could develop or acquire more capable weapon technologies. At present several organizations, such as the Joint Transportation Board and the National Reconnaissance Office, think in terms of global taskings that cross theater boundaries. But they are support organizations, not the primary warfighters.²⁴

For the command and control of Global Dynamic Operations, there are two obvious configurations. One is leaving command and control arrangements as they are—the status quo. The other possibility is to have some central authority—a global joint forces air component commander (Global JFACC or GFACC)—control or coordinate Global Dynamic Operations.

²⁰ AFDD 2, *Organization and Employment of Aerospace Power*, 17 February 2000, 46.

²¹ AFDD 1, 32.

²² AFDD 1 does hint at something very close to the GDO concept when it briefly mentions that US Strategic Command would be supported by “functional subordinate components, organized into task forces ... which execute operations for USCINSTRAT.” Although AFDD 1 envisions this to be in the nuclear role, there is no reason why it could not also apply to conventional GDO missions. See AFDD 1, 70-71.

²³ AFDD 2, 5.

²⁴ The Joint Transportation Board apportions airlift, sea-lift, and surface transportation resources between unified commands based upon National Command Authorities priorities. The National Reconnaissance Office, in a similar fashion, apportions satellite reconnaissance systems. See Joint Pub 4-01, *Joint Doctrine for the Defense Transportation System*, 17 June 1997, Appendix B, “Charter of the Joint Transportation Board,” and Joint Pub 2-02, *National Intelligence Support to Joint Operations*, 28 September 1998, IX-1 to IX-3.

Such a GFACC could reside in any one of several different organizational settings and should be able to plan and allocate GDO missions more efficiently; however, such a new entity would face enormous challenges.

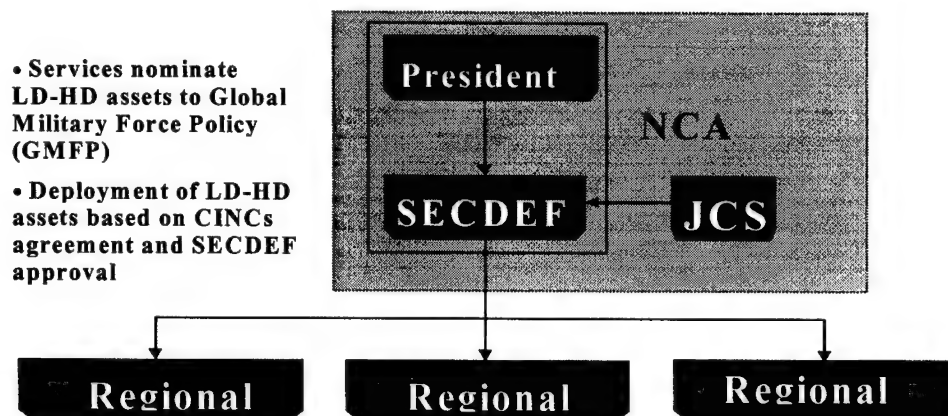


Figure 4. Status Quo

Status Quo. Under our current command structure, the services nominate LD-HD assets to the Joint Staff (J-3 Operations Directorate) to be included in the Global Military Force Policy (GMFP). For example, in the 1999 GMFP, the Air Force designated assets that included AWACS, Joint STARS, Rivet Joint, U-2, and A-10.²⁵ The chairman of the Joint Chiefs of Staff then recommends these systems to the secretary of defense who approves what goes into the GMFP and then apportions these assets among the unified commands based upon the recommendations of each unified CINC.

This system works well for LD-HD assets when one unified command at a time is engaged in combat, but it may be an awkward and inefficient way to control globally capable assets in a multitheater war (as was demonstrated in GE IV). What if two CINCs each requested 17 of the 21 available B-2s to be assigned to his or her theater? Our research indicates they would reach a “gentlemen’s agreement” to divide and share the critical assets and forward their recommendation to the vice chairman of the joint chiefs for the secretary of defense’s final decision. But what would happen if the two CINCs failed to reach agreement? One retired Air Force four-star general, with whom we discussed the GDO concept, remarked that the “CINCs will never reach agreement!”²⁶ The J-3 Operations Directorate may not be equipped to make such a recommendation over the wishes of a unified commander in chief. Unlike the Joint Transportation Board, which adjudicates CINC disputes over global transportation assets, there is no organization within the Office of the Secretary of Defense or the Joint Staff dedicated to the allocation of global aerospace power that readily could serve as a referee.²⁷

²⁵ “Global Military Force Policy: Orientation Briefing,” 20 June 2000. Also see Kockman, “America’s Silver Bullets,” Table 1. Also see (U) CJCS Msg 171600ZJUL00, Sub: Global Military Force Policy.

²⁶ Name of retired USAF four-star general withheld for nonattribution purposes, discussion with CADRE GDO research team, Maxwell AFB, Ala., 24 August 2000.

²⁷ The Joint Transportation Board is convened by the chairman of the Joint Chiefs of Staff during wartime or contingencies to establish priorities and apportion transportation resources (airlift, sea lift, and surface

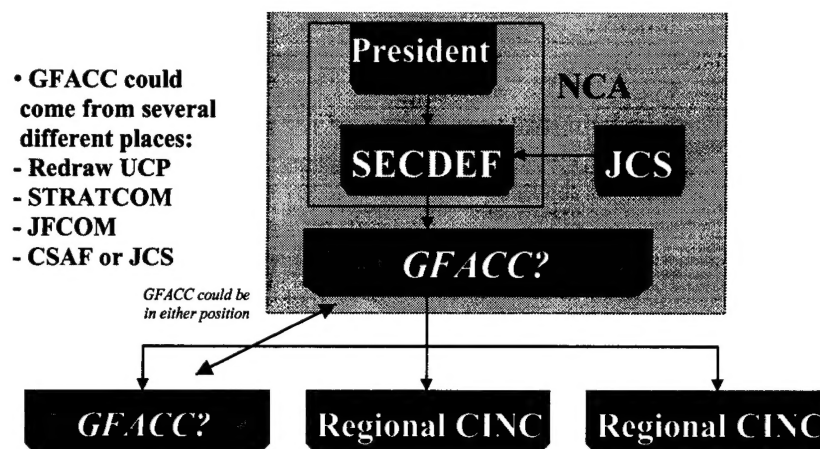


Figure 5. GFACC

Global Forces Air Component Commander. Based upon the strategic objectives and priority decisions of the National Command Authorities, a GFACC could plan and execute GDO missions across regional boundaries. The GFACC could own globally capable aerospace assets or have those assets “chopped” to him/her in the event of a multitheater war.

Such a GFACC might come from several different places. One possibility, if geographically feasible, is that the NCA could redraw a unified command’s boundaries to place both war zones under one commander who could set priorities for any subordinate JFACCs.²⁸ A second is that the GFACC could come from an existing unified command, such as STRATCOM, and a third and similar possibility is that the Air Combat Command commander, acting as the air component commander of the Joint Forces Command (JFCOM), could be the GFACC.²⁹ A fourth and less likely possibility is that the Air Force chief of staff could be the GFACC. Likewise, a fifth and equally remote option would have the GFACC located on the Joint Staff, probably in J-3 Operations.³⁰

transportation) to supported CINCs of unified commands. See Joint Pub 4-01, Appendix B. Perhaps, a “Joint Global Attack Board” that reports to the chairman of the JCS would help solve potential apportionment disputes.

²⁸ For example, if contingencies occurred in both the Balkans and Persian Gulf at the same time, the president might appoint USCINCEUR to command both theaters. In this case, USCINCEUR would set priorities and provide direction to both USAFE and CENTAF.

²⁹ United States Code, Title X, Section 161 (10 USC, Sect. 161, 1998) allows the president, with the advice and assistance of the chairman of the Joint Chiefs of Staff, through the secretary of defense, to establish and prescribe the force structure of unified and specified combatant commands. Therefore, the president could redraw unified command boundaries or set up a GFACC structure in STRATCOM or JFCOM by executive order. Congressional approval would not be required.

³⁰ In a related idea, Gen Anthony C. Zinni, USMC, Retired, (former commander in chief of US Central Command) mentioned to a GDO interviewer that the JCS might assume the role of a “team manager” with MAJCOMs or other DoD organizations as the “players.” In a dual MTW, the “manager” would decide the “batting lineup” and the “positions” for each player; however, the JCS would not prosecute the war or second guess the unified CINCs. Interview, Lt Col William M. Kohnke, USAFR (USCENTCOM CCJ4/7-O) with General Zinni, HQ USCENTCOM, MacDill AFB, Fla., 28 April 2000.

There is precedent for having some kind of central authority, outside a theater, independently commanding and controlling aerospace missions. During World War II, the US Army Air Forces Commanding General, Gen Henry H. "Hap" Arnold, also commanded the Pacific area Twentieth Air Force. As the "executive agent" for the Joint Chiefs of Staff, General Arnold commanded B-29 strategic bombing missions that crossed three theater boundaries: Admiral Nimitz's Central Pacific Area, General MacArthur's Southwest Pacific Area, and Admiral Mountbatten's Southeast Asia Command.³¹

All of the potential GFACC arrangements share similar advantages and disadvantages. The primary plus is that each would provide more efficient planning and managing of GDO missions. Most importantly, each should be able to eliminate the strong potential for competition between theater CINCs over LD-HD resources. On the other hand, each GFACC arrangement would face significant challenges. Sister services would probably be reluctant to accept a GFACC even though they would have few forces to contribute.³² The unified CINCs would undoubtedly oppose a GFACC that would take the control of certain aerospace assets away from their JFACCs, a significant change from recent joint and Air Force practices that assign all available forces to the unified commander. In addition, a GFACC would create new pressures on reach-back capabilities for building the air tasking order, both in the theaters and at the GFACC headquarters, as it would make coordinating the GDO missions with theater requirements more complicated. At worst, a GFACC arrangement might even cause command and control confusion similar to that experienced during the Vietnam War between the Strategic Air Command and Seventh Air Force.³³ Finally, if the Air Force chief of staff or Joint Staff became involved, Congress would have to rewrite public law, which would require widespread debate.³⁴ These obstacles are significant but not insurmountable.

³¹ On the Twentieth Air Force, see W. Frank Craven and James L. Cate, eds., *The Army Air Forces in World War II*, vol. 5, *The Pacific: Matterhorn to Nagasaki, June 1944 to August 1945* (Chicago: University of Chicago Press, 1953), 33-41.

³² In this regard, a GFACC organization might easily become a specified command, as was the Strategic Air Command, consisting exclusively of Air Force systems.

³³ For a detailed description of the confusing command and control structure for airpower during the Vietnam War, see William M. Momyer, *Air Power in Three Wars* (Washington, D.C.: Office of Air Force History, 1978), 65-110. In Vietnam, Seventh Air Force, with headquarters in Saigon, controlled tactical airpower, while the Strategic Air Command, with headquarters at Offutt AFB, Nebr., controlled B-52 missions. Coordination between the two headquarters often left much to be desired. General Momyer wrote, "Command and control of the B-52s was a continuing problem throughout the war." (99).

³⁴ At present, 10 USC Sect. 155 (e) (1998) prohibits either the Air Force chief of staff or the Joint Staff from actual command and control of combat missions and states: "The Joint Staff shall not operate or be organized as an overall Armed Forces General Staff and shall have no executive authority." This law would have to be changed for the Air Force chief of staff or any part of the Joint Staff to command and control GDO assets and missions.

Recommendations

The model of Global Dynamic Operations needs further study by dedicated research agencies that could examine the concept and its challenges in more depth. For example, a professional research organization could fully analyze different variations of possible command and control structures. In addition, Air Force wargames should test various GFACC options to determine if they work better than the current ad hoc gentlemen's agreements between CINCs.

It is obvious that the Air Force of tomorrow will be far more capable than the Air Force of today, perhaps in ways we can barely conceive. It may well be true that our future capabilities will exceed our capacity to control them in a multitheater conflict, especially as the world shrinks due to technological innovations. It is highly probable—and perhaps inevitable—that some form of GDO system will be part of the Air Force of tomorrow. The Air Force must start thinking about the concept today.

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